

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

TRANSLATION
PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

To:

Date of mailing (day/month/year) **See form PCT/ISA/210**

Applicant's or agent's file reference

P145066 ÜS/ML/CS

FOR FURTHER ACTION

See paragraph 2 below

International application No.

PCT/CH2005/000155

International filing date (day/month/year)

15.03.2005

Priority date (day/month/year)

15.03.2004

International Patent Classification (IPC) or both national classification and IPC

F24J2/05

Applicant

ÜSTÜN, Orhan

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☒ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/EP

Authorized officer

Facsimile No.

Telephone No.

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Box No. 1

Basis of this opinion

1. With regard to the language, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
☐ This opinion has been established on the basis of a translation from the original language into the following language
_____, which is the language of a translation furnished for the purposes of international search (under Rule 12.3 and 23.1(b)).
2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material
☐ a sequence listing
☐ table(s) related to the sequence listing
 - b. format of material
☐ in written format
☐ in computer readable form
 - c. time of filing/furnishing
☐ contained in the international application as filed.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table(s) relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

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Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability;
citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims <u>1-8</u>	YES
	Claims _____	NO
Inventive step (IS)	Claims _____	YES
	Claims <u>1-8</u>	NO
Industrial applicability (IA)	Claims <u>1-8</u>	YES
	Claims _____	NO

2. Citations and explanations:

1. The following search report citations (D) are specified in this opinion; the same numbering will be used throughout the procedure:

D1: US-A-4 440 156

D2: US-A-4 186 724 (likewise cited in the application)

D3: US-A-4 259 946

2. **PCT Article 33(2)**

The common technical features in claim 1 are not indicated in any of the International Search Report citations. The subject matter of claim 1 and its dependent claims 2 - 8 is therefore novel.

3. **PCT Article 33(3)**

The present application does not satisfy the requirements of PCT Article 33(1), because the subject matter of claims 1 - 8 does not involve an inventive step (PCT Article 33(3)).

3.1 **Claim 1**

D1 is considered to be the prior art closest to

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the subject matter of claim 1. Said document discloses (the references in parentheses relate to D1):

Heat exchanger having a vacuum tube (1) with an outer wall, having an inner tube (4) which accommodates fluid and the outer wall of which is arranged to extend in a parallel manner and inside a wall (2) of the vacuum tube (1), at least one heat-conducting member (7, 8) joining said wall (2) of the vacuum tube (1) to the fluid-guiding tube system (4), a means (3) which collects and concentrates solar energy being provided on said wall (2) on the side of the vacuum tube (1) further from the heat-conducting member (7, 8) (column 2, lines 17 - 19), wherein the at least one heat-conducting member (7, 8), each under pretension, presses against said wall (2) of the vacuum tube (1) and against the fluid-guiding tube system (4) (column 2, lines 53 - 58; and also column 3, lines 11 - 23).

A heat exchanger of this kind is likewise known from D3.

The subject matter of claim 1 differs from this known heat exchanger in that the inner tube is arranged concentrically with a wall of the vacuum tube (4). This feature cannot, however, constitute an inventive step. On the contrary, the concentric arrangement of the inner tube is one of many obvious heat exchanger design possibilities from which a person skilled in the art would choose

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according to the circumstances in order to solve the problem of interest, without thereby being inventive (see, for example, D2). The subject matter of claim 1 does not therefore involve an inventive step.

3.2 Claims 2 - 8

Dependent claims 2 - 8 contain no features which meet the requirements of the PCT with regard to inventive step. These claims concern only minor structural modifications of the heat exchanger defined in claim 1, of the kind that a person skilled in the art routinely makes on the basis of familiar considerations, especially since the resulting advantages are readily foreseeable (see, for example, D2 for claim 8).

4. PCT Article 33(4)

The subject matter of claims 1 - 8 is considered to be industrially applicable (PCT Article 33(4)).

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Box No. VII Certain defects in the international application

The following defects in the form or contents of the international application have been noted:

- 5.1 Contrary to the requirements of PCT Rule 5.1(a)(ii) neither the relevant prior art disclosed in documents D1 and D3 nor these documents have been indicated in the description.
- 5.2 Pursuant to PCT Rule 11.13(m) the same feature must be denoted by the same reference sign throughout the application. This requirement has not been satisfied in the case of, for example, the use of reference signs 4 and 8 (outer wall, tube system).